

No. 3617

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

MAJESTIC ELECTRIC DEVELOPMENT COMPANY
(a corporation),

Appellant,

vs.

WESTINGHOUSE ELECTRIC & MANUFACTURING
COMPANY (a corporation),

Appellee.

BRIEF FOR APPELLEE.

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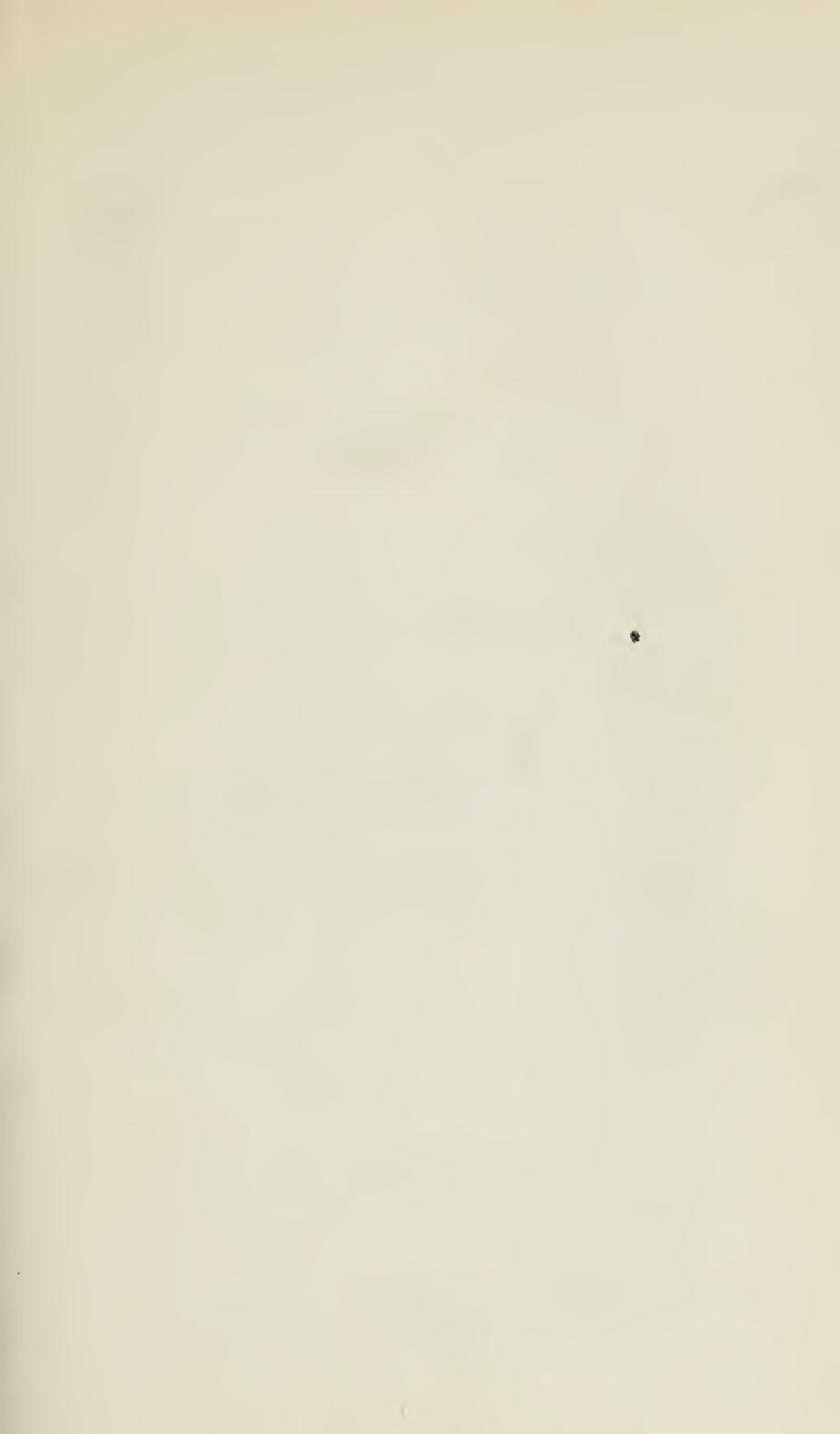
Solicitors for Appellee.

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BRIEF FOR APPELLEE.

This is an appeal by the plaintiff in a patent-infringement suit from a decree dismissing the bill of complaint.

For convenience, the parties will be here referred to as the plaintiff and the defendant.

SUBJECT MATTER.

The basis of the suit is United States letters patent No. 1,245,084 granted to the Majestic Electric Development Company, plaintiff-appellant, upon an application filed by Edmund N. Brown and covering certain alleged improvements in electric heaters.

In the District Court, infringement of claims 1, 2 and 4 of the patent in suit was alleged and urged, but the infringement allegation is here limited to claim 1.

The subject-matter of the patent in suit pertains to electric heaters of the reflector type in which radiant energy, generated electrically, is reflected in a single direction in what is characterized in the evidence as a beam, and heaters of that character are designated in the evidence as beam heaters.

This suit was tried in the lower court upon the assumption by the plaintiff that the inventor of the subject-matter of the patent in suit was a pioneer in the beam-heater art and that the patent is entitled to such broad interpretation as is generally and properly accorded to one covering a pioneer invention.

Before discussing this unfounded assumption, in detail, a general review of the prior art set forth in the record and certain common-knowledge material, of which the Court will take judicial notice, will be useful.

GENERAL PRIOR ART.

The art of generating radiant energy and reflecting it in a beam of rays having some approximation to parallelism is very old, it being a matter of common knowledge that searchlights, railway-locomotive headlights and automobile headlights have for many years utilized this principle of beam reflection to project ra-

diant energy along a single path or upon a single person or object or upon a relatively small group of persons or objects.

The general art of generation and projection of radiant energy is further exemplified by so-called flood-lighting which consists in projecting a beam of reflected light upon an object or a relatively small space which is to be illuminated, and this branch of the art, which has been practiced for a considerable number of years, culminated in the extraordinarily successful illumination of the buildings of the Panama-Pacific Exposition in San Francisco in 1915.

Although the reflection and projection of radiant energy in the relations and by the means just mentioned was practiced for the purpose of illumination, the laws of operation were the same as those governing and controlling the radiation and projection of energy rays for the purpose of heating a circumscribed space or a definite object, and, as stated by defendant's witness, Beam, the commercial production of light without the attendant production of heat has never been accomplished. (pp. 71 and 72 Rec.)

The projection of reflected radiant energy in a beam for the illumination of an object or a defined space by a searchlight; a similar illumination of a defined and limited path by a locomotive or automobile headlight, and the projection of reflected energy rays in a beam to heat a person or an object are all effected by combustion or by electrical resistance and a concavo-convex reflector.

Devices pertaining to the particular branch of the art represented by the patent in suit are characterized by portability, which obviously demands devices of compact form and light weight in order that they may be moved from place to place in an office or room of a residence and may be readily transported from one office to another or from one room or residence to another and be so designed and constructed as to be utilizable in electrical systems of distribution the primary purpose of which is illumination.

By reason of the necessity for portability and utilization by connection to electric-lamp sockets, these devices necessarily embody, as energy-generating elements, electrical conductors of high resistance so located in front of the reflecting surface as to insure a maximum degree of reflection in a single direction. These essential functions pertained to prior-art devices, as will be shown by later references to the record.

SPECIFIC PRIOR ART.

The reflection of electrically-generated radiant energy, in a beam, for utilization as heat, so far as the record of this case is concerned, began with the Morse patent No. 881,017, granted March 3, 1908, (Defendant's Exhibit F) which discloses an incandescent lamp as a heat-producing device and a spherically curved reflector for the heat rays generated by resistance of the lamp filament. The device of this Morse patent unquestionably generates heat which is reflected in a

beam against an object, or a portion of an object, to heat the same.

Later applications of the principle of beam reflection of radiant energy for the purpose of heating definite objects or spaces were made in England. Several manufacturers designed, manufactured, extensively advertised, and presumably sold, heaters of this general type, as is shown by defendant's exhibits 1, 2, 4, 5, 6, 7, 8, 9, 10, 11 and 12 and British patent No. 19,971 of 1913.

Specific discussion of the above-mentioned exhibits will be undertaken later.

At about the same time, or a little earlier, the defendant manufactured and sold heaters having a similar function and pertaining to the same field of use, these heaters being shown and described in defendant's exhibit G and being exemplified by defendant's exhibit M.

Another early development of the beam heater is represented by the Warner United States patent No. 1,120,003, granted December 8, 1914, upon an application filed August 7, 1913 (Defendant's exhibit H). Further consideration and discussion of this patent will be undertaken later.

The next activity in the development of beam heaters appears to have been that of the plaintiff in this suit or of its assignor, one Milton H. Shoenberg, who, on February 3, 1914, filed an application for letters patent which were issued to the plaintiff on September 1, 1914, bearing No. 1,109,551. (Defendant's Exhibit I).

The Shoenberg patent apparently marks the entry of the plaintiff into the electric-heater or radiator field and is the principal patent under which it has operated since entering that field, reflecting radiant heaters manufactured and sold by the plaintiff since the date of that patent having been marked with that date.

The plaintiff's activity in the electric-heater field prior to the date of application for the patent in suit is represented by defendant's exhibits A, B, C, D and E.

Exhibits A, B and D represent devices manufactured and sold by the plaintiff more than two years before the application for the patent in suit was filed, and exhibit C represents devices manufactured and sold between one and two years prior to such date.

SCOPE OF PATENT IN SUIT.

In view of the period of time covered by the evolution of the beam heater, it would naturally be expected, as the facts show, that the patent in suit, application for which was filed on July 10, 1917, would cover merely structural details constituting actual or alleged improvements upon devices of the same class that preceded it in the art.

It is well understood that interpretation of the claim of a patent, which defines the metes and bounds of the domain from which the public is excluded by the government grant to the patentee, is to be interpreted first, by the drawing and specification of the patent; second, by the admissions or commitments of the ap-

plicant during the prosecution of his application in the Patent Office, and third, by the prior art, as represented by public use, patents, both domestic and foreign, and printed publications, both domestic and foreign.

Turning to the specification of the patent in suit, we find, in lines 9 to 17, the following statement:

“This invention relates to electric heaters in which the heat waves are generated by a resistance coil or heating unit and are then reflected from a highly polished surface.

One of the main purposes of my invention is to provide an electric heater or radiator in which the highly heated portions are enclosed by protecting members, but one readily accessible for examination or repair.”

This is a statement of the patentee's invention and is strictly in accord with what one would expect to find, in view of the well-developed state of the art, as shown by defendant's exhibits, to which reference has already been made.

The specification nowhere mentions or suggests any purpose or function for his contribution to the art represented by “electric heaters in which the heat waves are generated by a resistance coil or heating unit and are then reflected from a highly polished surface” except *protection of the highly heated portions and accessibility for examination and repair*.

It is apparent from the above-quoted statement that the applicant for the patent in suit or his attorney, or both, recognized that the main and essential elements of the device for which a patent was sought were old

in the art and, consequently, no attempt was made to cover the device broadly.

In the use of the earlier heaters manufactured and sold by the plaintiff, the reflectors became objectionably, and perhaps dangerously, hot in service, and, consequently, the applicant for the patent in suit sought to protect the user of the device from injury by providing a casing 3 and spacing it from the reflector 1 to form a dead-air space through which no appreciable amount of heat would be transmitted.

As a further protective means, the applicant added a broad peripheral rim or flange 3a, to the outer edge of which the cage or guard wires 23 were fastened. The flange 3a, being an integral part of the casing 3, cooperates with it and with a wire cage of the prior art to afford such protection that accidental contact with the heated surface of the reflector is rendered impossible.

THE CLAIM.

Claim 1 of the patent in suit, upon which the plaintiff relies, contains the following elements:

1. A concavo-convex reflector, designated by the numeral 1 in the drawing.
2. A heating unit supported at substantially the focus of said reflector, designated by the numeral 7 in the drawing.
3. An annular member extending outwardly from the margin of said reflector, designated by the numeral 3a in the drawing.

4. A protective cage having guard wires arched between opposite sides of said annular member, designated by the numerals 23, 24, 25, 26 and 27.

The four elements in the claim must have added to them, by implication, a supporting means and electrical connections for the heating unit, but, as such elements pertain to all electrical heaters, it is immaterial to interpretation of the claim whether or not they are specifically mentioned.

Referring specifically to the reflector, the specification is silent as to its specific form, but, as shown in the drawing, it appears to be of parabolic curvature and the statement that the heating unit is supported at substantially the focus of the reflector would seem to limit the reflector to a parabolic form, inasmuch as a reflector of any other form would not have a focus in which the heating unit could be located.

Obviously, the focus of a reflector of parabolic contour is a point and, consequently, a heating unit of substantial dimensions cannot actually be located at the focus, but it appears from the testimony of plaintiff's witness Henry that the significance of the statement in the claim, that the heating unit is supported at substantially the focus of the reflector, is that the actual focus is within, and substantially at the central point of, the heating unit, so that the unit is located as nearly at the focus as is possible for a device having substantial dimensions.

The annular member extending outwardly from the margin of the reflector is unmistakably and unquestion-

ably the portion designated in the drawing by the numeral 3a, the function of which is stated in the specification as follows:

“In order to prevent the outer exposed edge of the heater from being heated, I provide the casing with a marginal annular flange 3a”.

It will be noted by reference to the certified copy of the file wrapper and contents of the application for the patent in suit, constituting defendant's exhibit O, that the Patent Office Examiner was, to some degree at least, in doubt as to the element designated by the words in claim 1 as “an annular member extending outwardly from the margin of said reflector” and, therefore, made inquiry of the applicant's attorney on this point. The response made by the attorney was that the element in question is the annular flange 3a, which then and thereafter constituted a commitment by the patentee to this interpretation of the claim, so far as the element in question is concerned.

The only limitation imposed upon the fourth element of the claim is that the guard wires of the protective cage shall be “arched between opposite sides of said annular member”. Although this language is not accurately descriptive, it is apparently intended to mean that the ends of the wires of the protective cage are attached to the outer edge or rim of the annular member 3a, as shown in the drawing.

It follows from the foregoing analysis of the patent and the history of the application therefor that, apart from the prior art, claim 1 is necessarily limited to a

structure comprising (1) a concavo-convex reflector, (2) a heating unit supported at substantially the focus of the reflector, (3) an annular flange extending outwardly from the margin of the reflector to protect the user of the heater and people and objects in proximity thereto from becoming burned by contact with the heated surface, and (4) a protective cage comprising guard wires the ends of which are attached to the outer rim or margin of the annular protective flange 3a.

**PLAINTIFF IGNORES INHERENT LIMITATIONS AND DEFECTS
OF PATENT IN SUIT.**

Counsel for plaintiff, having a definite realization of the hopelessness of his case, so far as infringement is concerned, provided the patent in suit is given no broader interpretation than its language warrants, attempts to enlarge its scope by substantially ignoring its specific disclosure and terms, as well as the prior art. He attempts to give the subject matter of the patent a fictitious value by repeatedly and vehemently asserting that the patentee was the first to realize, disclose, and embody in concrete form, a means for projecting a solid beam of heat, thus creating an atmosphere which does not belong to the subject matter of the patent in suit.

Counsel for plaintiff pleads first for a broad and liberal interpretation and, as an alternative, if denied such interpretation, one which accords to his client the benefit of the doctrine of equivalents.

It has already been shown that the specification of the patent and its claim 1, even though the prior art be neglected, preclude the patentee from a broad and liberal interpretation.

Whether or not the patentee is entitled to the benefit of the doctrine of equivalents is a moot question here because the defendant's device has no part which corresponds, in structure or function, to the annular member 3-a of patent in suit.

The turned-over edge of defendant's reflector is an equivalent of an element of the patented device, but that element is the turned-over edge of the reflector 1, which rests upon, and is fastened to, the member 3-a. In other words, so far as the present suit is concerned, the question of equivalency does not and cannot arise.

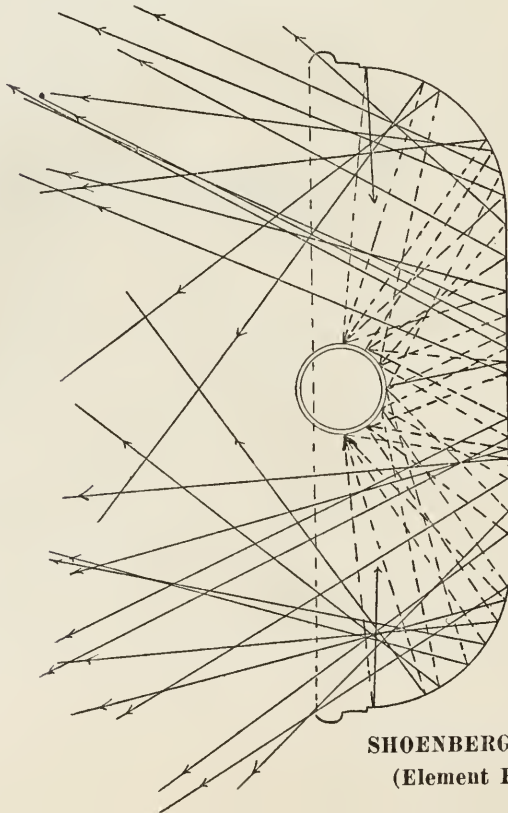
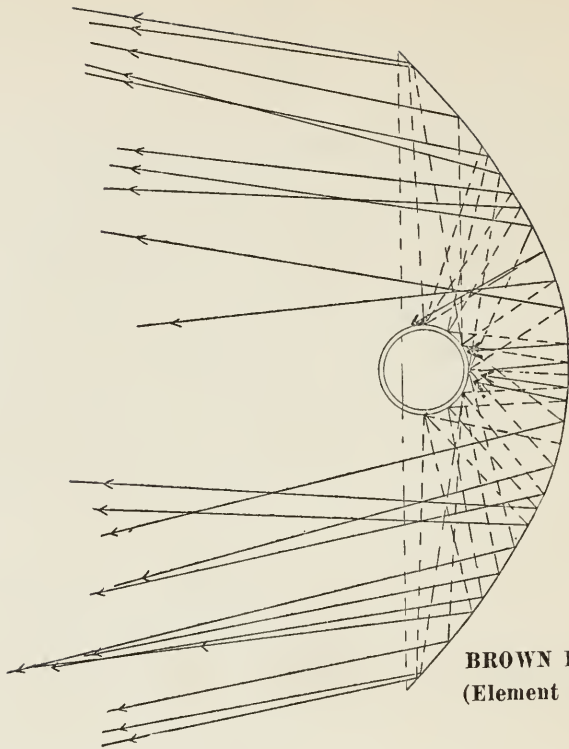
We express no opinion as to the right of the patentee to the benefit of the doctrine of equivalents because the question is not pertinent in the instant case.

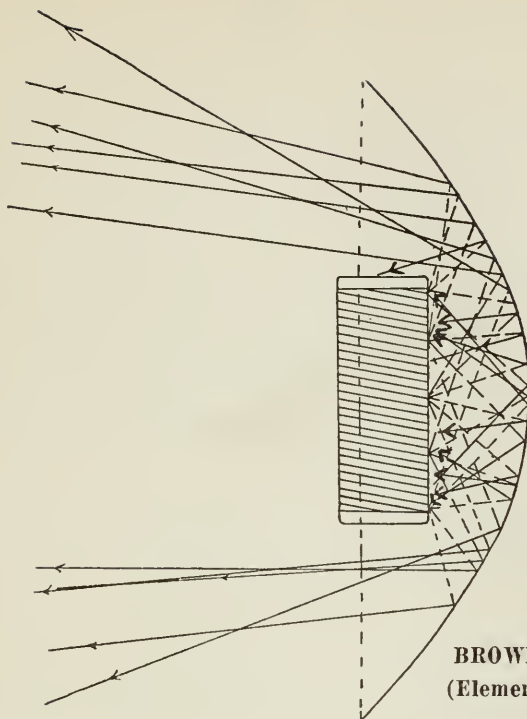
Counsel for plaintiff presents his case for consideration by this court upon the assumption that the heating unit and the parabolically curved reflector co-operate to produce a cylindrical shaft or beam of heat and has presented, on each of pages 13 and 47, a diagram for the purpose of substantiating such assumption. This diagram is grossly misleading and, therefore, fails as a graphic demonstration; first, because it assumes that the energy or heat waves emanate from a single point instead of from a large number of circumferentially disposed points, and further, because it ignores the length of the cylindrical heating unit.

It must be borne in mind that the heating unit of the patent in suit is a cylinder, the active portion of which is a wire helix and that every portion of the helix emits heat rays, *at least one-half of which radiate from the front side of the unit into the atmosphere without impinging upon any portion of the reflector.* These rays, which are projected into space fan-wise, obviously constitute no part of a cylindrical or approximately cylindrical beam, since they are subject to no directive influence.

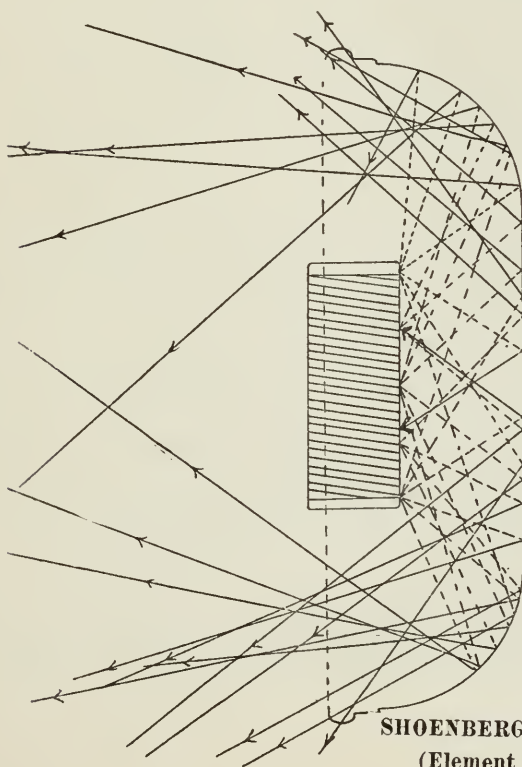
A considerable percentage of the rays which emanate from the rear portion of the heating unit will be reflected directly back against that unit, and the other portions, which are intercepted by the reflector surface, will be reflected in a great variety of directions because they are emitted from innumerable points of approximately one-half of a helix which extends at right angles to the axis of the reflector and no two of which are located the same distance from the reflector surface or in an otherwise symmetrical relation thereto.

We have shown on pages 14 and 15 of this brief two diagrammatic representations of the heating unit, the reflector and some of the heat rays in the plaintiff's No. 7 heater in one of which the heating unit is shown in end-wise relation and the other in side-wise relation to the observer. Two like views, illustrating the Shoenberg or Majestic No. 2 heater, are presented in order that the two devices may be compared, as regards the distribution of the reflected heat rays.





BROWN HEATER
(Element Sidewise)



SHOENBERG HEATER
(Element Sidewise)

Our illustrations are obviously incomplete in the sense and to the extent that only a small number of rays is represented, but those shown are sufficient to illustrate the operation, and a material increase in the number would serve merely to increase and accentuate the deviation from that uniform and symmetrical relation which counsel for plaintiff alleges pertains to the No. 7 heater, and which his diagrams on pages 13 and 47 purport to illustrate.

The diagrams which we present are drawn in accordance with the well-known physical law that the angle of incidence and the angle of reflection are equal and, consequently, insofar as the operation of the device may be indicated by a relatively small number of lines, such operation is indicated by such diagrams.

In this connection, the attention of the court is invited to testimony of plaintiff's witness Henry appearing on page 55 of the record, as follows:

"In case of exhibit 5 (defendant's heater) the beam which is thrown out at any point in its cross section will be substantially circular and of equal intensity at the same distance, and direction from the axis of the reflector curvature, whereas in exhibit 2 (plaintiff's No. 7 heater), due to the manner in which the heat element is placed transversely with respect to the axis of the reflector, but, nevertheless, enclosing or containing within itself the focus of the reflector, its beam will be laterally divergent or spread out sideways more than in the case of the beam from exhibit 5."

It will be apparent from an examination of the two sets of diagrams that the transverse disposition of the

cylindrical heating unit with reference to the reflector actually gives better results in the number 2 device, mainly because the heating unit is substantially parallel to the reflecting surface immediately behind it, whereas in the No. 7 heater there is no symmetrical relation between the surfaces of the heating unit and the reflecting surface behind such unit.

As has already been noted, all of the four elements enumerated in claim 1 were not contributed to the art by the patentee Brown. It remains to determine which, if any, of these elements were contributed by him.

PRIOR PATENTS, PUBLICATIONS AND DEVICES.

In general, defendant's exhibits speak for themselves and require no material explanation or interpretation, but, in view of certain criticisms made by counsel for plaintiff in his brief, we desire to comment briefly in reply.

Porter patent No. 684459 (defendant's exhibit N). This exhibit has significance only in the sense and to the extent that it discloses an electric heater *having a protective wire cage of arched form.*

The Morse patent No. 881,017, granted March 3, 1908 (defendant's exhibit F), discloses a concavo-convex reflector 1, a heating unit 4, supported in such relation to the reflector as is demanded by the claim, provided the reflector of the patent in suit is not limited to parabolic curvature, a pad or rim 2, which is "an annular member extending outwardly from the margin of the

reflector” if the claim is to be given the broad construction demanded by the plaintiff, inasmuch as the specification of the patent states, with reference to this feature, “this pad is made of soft material which is adapted to protect the body from contact with the heated edge of the shell”, and a protective cage in the form of a screen 5 “of coarse-wire mesh or similar construction”.

It follows, therefore, that the Morse patent discloses a reflecting electric heater having the same number of elements as are enumerated in claim 1 of the patent in suit, severally performing similar functions.

The attack made by counsel for plaintiff upon this exhibit is hardly warranted by the facts, inasmuch as the filament of an incandescent lamp, when in operation, emits heat as well as light and is utilized in the structure shown in the Morse patent as a heating unit, and the cylindrically curved shell 1 is utilized as a reflector of the generated heat.

It is alleged that the word “reflector” is not used in the specification, but that fact is no justification for alleging that the concavo-convex shell is not a reflector. The specification of the patent, on lines 45 to 49, states “When the electric light is turned on, the heat developed within it is *reflected* downwardly by the shell 1 toward the surface of the body against which the lower edge of the shell rests.” (Italics ours.)

The statement of counsel that the “Morse device does not exhibit the principle of reflecting radiant energy in the shape of a beam against an object for

the purpose of heating the same" is entirely without warrant.

The heater shown in Geiger patent No. 1,194,168, (defendant's exhibit G), and represented by defendant's exhibit M, embodies a concavo-convex reflector, two heating units, which are so located with reference to the reflector that the heat generated by them is reflected in one direction only. In other words, the Geiger device is a portable electric heater having a polished reflector to project the generated heat in a single direction to heat a single object or person or a small group of objects or persons, and many of these heaters were manufactured and sold prior to the advent of plaintiff's No. 7 heater.

A radiant electric heater, called the "Ferranti Fire" is described in defendant's exhibit No. 1, a portion of the description being as follows:

"a circular bowl of polished copper which concentrates and reflects the heat rays. Like the Bastian heater, the greater part of the energy is given out as convected heat but there is considerable radiant energy, and owing to the reflecting properties of the bowl this can be distinctly felt at a distance of many feet. It has much the appearance of a red-hot fire, hence its name, and its effect is much the same."

The heating unit is described as

"A closely wound spiral disk of nichrome or similar tape, interleaved with mica (a modified variety of the old Ferranti winding), and held in close contact with a circular plate of quartz glass six inches in diameter."

This device, therefore, comprises a concavo-convex reflector and a heating unit which bears a relation to the reflector which corresponds substantially to the relation of the heating unit to the reflector of the patent in suit.

It is further stated that "It would be an obvious improvement to protect the disk by a suitable form of guard".

The Ferranti Fire is described also in defendant's exhibit No. 2, a portion of the description being as follows:

"A new style of electric heater has lately been introduced in which a circular plate of quartz glass is caused to glow at a bright red by contact with a spiral resistance unit in front of which it is clamped. By means of a bowl-shaped copper reflector surrounding the heating surface, and carried on trunnions, the heat rays can be focussed in any desired direction."

and, further,

"It would be a simple matter to protect the heated disc by the use of a guard of expanded metal or a wire netting with large mesh. Neither method need detract from the appearance of the heater nor reduce its efficiency, and both could be made detachable so that the disc could be used for water boiling as at present. The guard could be clipped round the flange which surrounds the quartz disc, *or it could be secured to the outer edge of the copper reflecting bowl*". (Italics ours)

Defendant's exhibit No. 4 illustrates and describes the Ferranti Fire. Attention is specifically directed to a portion of the descriptive matter as follows:

“It will be seen that the heating element is mounted in the centre of a polished brass or copper reflector, which, being supported on bearings, is capable of rotation through 180 degrees.”

and, further,

“An ornamental ring, seen in Fig. 184, covers the joint between the element and the reflector, and secures a wire guard when necessary.”

In defendant's exhibit No. 11 appears a further description of the Ferranti Electric Fires in which reference is made to the large reflecting bowl, the color scheme of which gives an appearance of warmth, etc.

In defendant's exhibit No. 12 is illustrated an example of the Ferranti Electric Fire, as to which no specific mention is necessary except to call attention to the smaller figures of the cut.

Defendant's exhibit No. 3 embodies a cut of a device for generating and reflecting radiant energy that is primarily intended for lighting purposes. The device embodies, however, a concavo-convex reflector having a rim or bead around its edge to which is attached a wire protective cage corresponding substantially to that of the patent in suit and having a heat and light-generating unit located in front of the reflector.

Defendant's exhibits Nos. 5 and 7 illustrate and describe a so-called “Calor” electric fire comprising an electric heating unit and a reflector of bowl-shape which has a flat peripheral flange projecting from its edge.

Attention is particularly directed to the cut of exhibit No. 7 designated as “Fig. 3—Pedestal Type

'Calor' Fire'', especially as illustrating a device that embodies an electric heating unit, a concavo-convex reflector having an annular member extending outwardly from its margin and a supporting stand of the desk-telephone type.

Defendant's exhibit No. 6 illustrates and describes a so-called "Redglo" fire embodying an electrical heating unit, and a bowl-shaped reflector having a peripheral flange extending outwardly from the edge of its curved portion.

Defendant's exhibits Nos. 8 and 9 and British patent No. 19,971 of 1913 illustrate and describe a radiant or beam heater manufactured by Simplex Conduits, Limited, of London, and designated as the "Plexsim" electric fire.

It will be noted that the Plexsim heater is illustrated and described as definitely and distinctly a beam heater in which the heat is generated by a cylindrical coil of wire and is reflected from a polished copper surface in approximately straight lines, as a beam.

The subject matter of this Simplex English Patent 19,971 of September 4, 1913, which is further illustrated in defendant's exhibit No. 9 and on page 24 of the brief for plaintiff, is criticised at length on various grounds, but mainly because it does not project a perfect, or approximately perfect, beam of heat, notwithstanding the fact that the specification of the patent alleges that the heat issues from the device in the form of a condensed beam of rays.

It is apparent that, inasmuch as the heating unit is located entirely within the reflector and has a longitudinal axis that is coincident with that of the reflector, a negligible portion of heat rays will be projected into the atmosphere without impinging upon the reflector surface.

Although the reflected heat rays may not all be projected in such manner as to constitute a cylindrical beam, there is little, if any, room for doubt that the criss-crossing and consequent interference of rays will be little, if any, more serious than in the Brown No. 7 device.

The language of the specification, portions of which are quoted on pages 29, 30 and 31 of the brief for plaintiff is criticised as vague and indefinite. To whatever, if any, extent the specification is open to criticism, the fact remains that we are here dealing with things, rather than words and the thing which we are considering is very definitely disclosed in this patent and also in defendant's exhibits 8 and 9.

The statement by counsel that the Simplex English patent is apparently "nothing more than a mere paper patent" is entirely without justification, in view of defendant's exhibits 8 and 9, which describe the subject matter of this patent as being on sale in England and available for purchase and use by those desiring such devices.

The device illustrated in each of Figs. 14 and 17 of defendant's exhibit 15 embodies light and heat-generating units, a concavo-convex reflector and a protective

cage the ends of the wires of which are fastened to the rim of the reflector.

Defendant's exhibit No. 16 contains a cut of one of plaintiff's No. 2 heaters, defendant's exhibit B being one of these heaters.

The Shoenberg patent comprises a concavo-convex reflector, a heating unit of the same type and form as that of the patent in suit and supported as nearly at the focus of the reflector as is the unit of the patent in suit; the reflector is supported within, and spaced from, a protective casing which has a projecting flange or rim, and guard wires are provided the ends of which are attached to the flange or rim of the protective casing.

With reference to the reflector, the specification of the Shoenberg patent states (p. 1, lines 48 to 53)

"The reflector consists preferably of a highly polished metal shell 1, which is somewhat hemispherical or dome-shaped and serves to reflect the heat waves received from the heater and direct them outwardly from its inner concave surface."

The specification states further (p. 2, lines 9 to 17)

"The coil of the heating element is made of bare wire of high resistance which becomes very hot and I therefore provide guard wires 14, which cross and have their ends secured in apertures in the rim of the reflector. These guard wires serve not only to prevent any inconvenience by accidental contact with the hot wires, but also to protect the heater unit from injury."

There is no escape from the conclusion that the Shoenberg patent discloses every element of claim 1 of

the patent in suit, combined and operating in the same manner and to perform the same functions, the only difference being that the reflector of the Shoenberg patent differs in form from that shown in the patent in suit, as does also the peripheral rim or flange of the protective casing. Nevertheless, the reflector of the Shoenberg patent is concavo-convex, the heating unit is supported in the same relation to the reflector as in the patent in suit, the rim or flange extends outwardly from the margin of the reflector, and the guard wires of the protective cage are "arched between opposite sides of the annular member," as will be seen by reference to Fig. 10 of the drawings of the patent.

In Fig. 2 of the drawings of the Shoenberg patent, the reflector is shown as provided with a flange or annular member having the same location and general relations as the member 3a of the patent in suit except that the forwardly projecting portion or rim is wider than the portion projecting laterally whereas, in the patent in suit, the laterally projecting portion is materially wider than the forwardly projecting portion at its outer edge.

In each case, the wires of the protective cage are attached to the outwardly projecting annular portion and are "arched between opposite sides of said annular member". In other words, the only difference between the annular members in the two cases is in relative dimensions.

The protective cage of the patent in suit obviously differs from that of the Shoenberg patent in compris-

ing a relatively large number of arched guard wires but plaintiff is barred from any benefit in this regard because exactly this form of protective cage is embodied in each of the heaters 1, 2, 2b and 3, represented by defendant's exhibits A, B, C, D and E.

This Shoenberg Patent 1,109,551 (defendant's exhibit I), under which plaintiff has been operating for several years and the date of which has been placed upon all of the recent No. 7 heaters which it has manufactured and sold, is now discredited and this court is asked to believe that its subject matter is not only inefficient, but substantially inoperative for all practical purposes, the assertion being made that its subject matter belongs "in the category of unsuccessful, impractical, and abandoned experiments". (See page 23 of plaintiff's brief.)

On each of pages 22 and 47 of the brief for plaintiff is depicted what purports to be an illustration of the reflective characteristics of the Shoenberg device, as exemplified in the Majestic No. 2 heater (defendant's exhibit B). In these diagrams the actual operating characteristics are overlooked or deliberately ignored, in that the heat rays are indicated as emanating from a point, whereas they actually emanate from innumerable points of the wire helix which constitutes the active portion of the heating unit.

As in the Brown heater, an alleged illustration of which is also presented on page 47, at least one-half, and probably more than one-half, of the generated heat rays will be projected fan-wise outwardly into the atmosphere without impinging, in any manner or

degree, upon the reflector surface, and those which emanate from the inner portion of the helix are projected against the reflecting surface from so many different points and at so many different angles that the sum of the reflected rays will, of course, not constitute a true beam of heat, but they will nearly, if not quite, as closely approximate such beam as will the Brown device. This is largely true because the axis of the cylindrical heating unit is substantially parallel to the portion of the reflector in front of which it is directly located. Whereas, in the Brown device, the ends of the cylindrical heating unit are much nearer to the reflecting surface immediately back of them than is the middle portion to the central portion of the reflector, and the intermediate distances vary from the middle toward the ends.

If any patentable novelty attaches to the protective device of the patent in suit, which defendant does not admit, *it must reside in the specific form and dimensions of the part 3a*, inasmuch as the protective casing is found in the Warner patent No. 1,120,003 and a protective pad or rim 2 is disclosed in the Morse patent No. 881,017.

It is a more than liberal grant of credit as an inventor to accord to the patentee Brown the right to exclude others from the use of a protective annular flange, in view of the structure of the Morse patent and that of the Shoenberg patent, that of the "Calor" fire device illustrated in defendant's exhibits 5 and 7 and that of the "Redglo" device illustrated in defendant's exhibit 6.

It will be noted further that the Warner patent No. 1,120,003, a copy of which constitutes defendant's exhibit H, discloses a radiant electric heater embodying a concavo-convex reflector, a heating unit and a protective wire cage, all supported upon a stand of the familiar desk-telephone type.

Although the reflector of the Plexsim device, disclosed in defendant's exhibits 8 and 9 and British patent No. 19,971 of 1913, is not shown as provided with an annular flange, the structure has all of the other elements of claim 1 of the patent in suit and, in the illustration of exhibit No. 9, the protective cage is similar to that of the patent in suit.

The subject matter of Warner Patent 1,120,003 (defendant's exhibit H) is a heater which pertains to the same class as does the subject matter of the patent in suit and, whatever may be its degree of efficiency as a radiant or reflecting heater, it has all the elements of the device set forth and claimed in the patent in suit, except the broad marginal flange for the protective casing, and it has a reflector provided with a turned over edge of substantially the same form as the corresponding element of defendant's reflector.

No allegation of inefficiency can serve to make the Warner device anything but what it is, as shown and described in the patent.

Defendant's exhibit J was made in conformity to the illustration of exhibit No. 9 except that its reflector was parabolically curved and provided with a smooth

reflecting surface, in accordance with the disclosure of British patent No. 19,971 of 1913, a certified copy of which is in evidence.

It will be noted that, in lines 20 and 21 of page 2 of the specification of the British patent No. 19,971, it is stated that the reflector may be "the frustum of a cone, or of parabolic configuration", and that in lines 25 to 29, page 3, it is stated

"We have found that a diameter at the large end approximately equal to the depth of the cone gives good results, but the cone angle may be greater or less than that so indicated, or the reflector may be, in longitudinal section, in whole or in part of parabolic or the like contour, according to the form desired for the emergent beam of rays."

Edmund N. Brown had *constructive* knowledge of all that the prior art contained when he filed his application for the patent in suit and he had *actual* knowledge of the Shoenberg patent and the Majestic Nos. 1, 2, 2b and 3 heaters.

It will be noted that plaintiff's earlier heaters, represented by defendant's exhibits A. B. C. D and E. embody elements the same in number, form and location as those shown and described in the patent in suit, namely, a supporting base and standard, a concavo-convex reflector, an electrical resistance coil of tubular form, mounted upon an insulating tube and disposed transversely to the axis of the reflector and in front of it and a wire guard or cage disposed in front of the heater and reflector for the purpose of protecting the user or

anyone in proximity to the device from becoming burned by contact with the heater element or with the heated reflecting surface.

ALLEGED FAILURE AND ABANDONMENT OF EARLY DEVICES.

The brief for plaintiff characterizes the Majestic heaters 1, 2, 3, 1b, 2b and 3b, four of which are exemplified in defendant's exhibits A, B, C and D and three of which are illustrated in the photograph of the Majestic Company exhibit at the Panama-Pacific Exposition, constituting defendant's exhibit E, as unsuccessful experiments and as failures. There is no evidence in the record to support such characterizations and, in fact, the evidence discredits and disproves them.

The devices which were manufactured and sold extensively over a considerable period of time and exhibited at the Panama-Pacific Exposition as commercial products were not experiments and cannot be construed to be such, and there is no item of evidence in the record to the effect that the devices in question were unsuccessful or were failures.

The only sense in which abandonment enters into the case, so far as the devices in question are concerned, is that manufacture of these earlier devices was discontinued after manufacture of the No. 7 devices was begun.

Public sale or use of an invention forever debars another subsequent inventor from securing a valid patent thereon, and no valid patent can be issued upon an application filed by the original and first inventor more than two years after public sale or use occurs.

In the present case, it is immaterial that the heaters Nos. 1, 2, 2b and 3 were manufactured and sold by the plaintiff, instead of by some other party, inasmuch as the patent in suit covers an alleged invention made by one Edmund N. Brown who had no connection with, or relation to, the design of the said heaters Nos. 1, 2, 2b and 3.

The brief for plaintiff alleges that all devices of the portable electric heater type, which were manufactured and sold prior to the advent of the No. 7 Majestic heater were abandoned and the manufacture thereof discontinued upon the appearance of the No. 7 heater. There is no evidence in support of these allegations; so far as the record shows, the heaters shown and described in defendant's exhibits 1, 2, 4, 5, 6, 7, 8, 9, 10, 11 and 12 are still being manufactured and sold in England and, furthermore, heaters represented by defendant's exhibit M are still being sold by the defendant.

The brief for plaintiff states, on page 62, that "the lower court conceded that if the claim were entitled to a liberal construction infringement would follow." We do not admit that the lower court made any such concession. The opinion did state in substance that infringement could not be found unless the patent was given a broad construction, but there was no finding to the effect that, in any event, the construction could or would be such as to either necessitate or justify a finding of infringement.

The brief states, on page 62 and again on page 64, that it cannot be denied that the defendant's heating unit is supported substantially at the focus of the reflector.

We traverse that statement and deny that the defendant's heating unit is so supported.

Counsel for plaintiff states, on page 71 of his brief, that the Edison Electric Appliance Company, "took out a license and is now operating under the license". This statement has no support in the evidence and has no proper place in the presentation of the present appeal to this court. Further, counsel's allegation that certain other manufacturers have "put infringing devices upon the market", has no adequate support in the evidence and is therefore merely an expression of opinion by counsel which has no proper place in presentation of the present appeal to this court.

The statement of counsel that the opinion of the trial court concedes the validity of the patent in suit (page 76 of brief) is not justified by the facts. The trial court found non-infringement and, so finding, elected not to go further and determine the matter of validity or invalidity of the patent in suit. It is problematical and beside the question as to what ruling the court would have made on the question of validity if it had been found necessary to pass upon that question.

NO EXCLUSIVE RIGHT BECAUSE OF COMMERCIAL ACTIVITY.

The vigorous and persistent attempt by the plaintiff to establish an exclusive right to the commercial field occupied by radiant electric heaters of the beam type by way of evidence as to the period and extent of its own commercial exploitation of its No. 7 heaters is

unwarranted because based upon the fictitious assumption that the commercial success attendant upon the manufacture and sale of No. 7 heaters was due to the novelty and efficiency of that device and the further fictitious assumption that competitors of the plaintiff entered the field because of the popularity achieved by the No. 7 heater.

If any claim for patentable novelty is to be based upon evidence of large sales, relationship of invention to volume of sales must rest upon something more tangible than conjecture.

The Courts are rarely willing to accept evidence of commercial popularity as evidence of invention and will never do so unless the question of invention is one of grave doubt.

On this point the Supreme Court said, in *McClain v. Ortmyer*, 141 U. S. 419:

"That the extent to which a patented device has gone into use is an unsafe criterion, even of its actual utility, is evident from the fact that the general introduction of manufactured articles is as often affected by extensive and judicious advertising, activity in putting the goods upon the market and large commissions to dealers, as by the intrinsic merit of the articles themselves. * * * If the generality of sales were made the test of patentability, it would result that a person, by securing a patent upon some trifling variation from previously known methods, might, by energy in pushing sales, or by superiority in finishing or decorating his goods, drive competitors out of the market, and secure a practical monopoly without in fact having made the slightest contribution of value to the useful arts. * * * While this court has held in a number of cases * * * that in a

doubtful case the fact that a patented article had gone into general use is evidence of its utility, it is not conclusive even of that; much less of its patentable novelty.”

The Court affirmed this ruling in *Adams v. Bellair Stamping Co.*, 141 U. S. 539, and *Duer v. Corbin Cabinet Lock Co.*, 149 U. S. 216, and the District Courts and Circuit Courts of Appeal throughout the United States have made similar rulings in many reported cases some of which have been in the Ninth Circuit, *Klein v. City of Seattle*, 77 F. R. 200, *American Sales Book Co. et al. v. Bullivant*, 117 F. R. 255, and *Hyde v. Minerals Separation, Limited, et al.*, 214 F. R. 100, being notable examples.

In view of the general recognition given by the courts to the principle enunciated by the Supreme Court in *McClain v. Ortmyer*, supra, further citations from the many published opinions appear to be unnecessary.

As a matter of fact, the commercial use of plaintiff's No. 7 heater was due to extensive advertising, both by the plaintiff and by its competitors, as shown by the testimony of Edmund N. Brown, the patentee, pages 118 and 119 of the record, to the effect that the Hotpoint Company; The Simplex Heating Company; Landers, Frary & Clark, the Rutenber Electric and Manufacturing Company; the Estate Stove Company, and the Westinghouse Company all advertised very liberally.

The increase in the sale of the No. 7 heater over that of its predecessors was undoubtedly also due, in great measure, to the fact that it was of larger size and was provided with a reflector of burnished copper, both of which features made it more striking and attractive in appearance than its predecessors.

In addition, the exploitation of the No. 7 heater was substantially coincident in point of time with the freeing of the plaintiff from restriction of its activities by the obtaining of a license under the Marsh patent on nickel-chromium wire, as set forth in the following paragraphs:

IMPORTANCE OF NICKEL-CHROMIUM WIRE.

The record in this case shows that wire composed mainly of nickel-chromium alloy is the only available material which can be utilized to operate at an incandescent temperature in the open air without destruction or rapid deterioration, and that this material is covered by a certain Marsh patent under which all manufacturers of electrical heating devices and apparatus are operating as licensees.

Although the Nos. 1, 2, 2b and 3 heaters manufactured and exploited by the plaintiff prior to the production of its No. 7 heater embodied heating units which constituted infringements of the Marsh patent, during the period of manufacture and sale of these earlier heating devices, the Marsh patent was in process of litigation against the General Electric Company. Shortly after the termination of the litigation, which resulted in sustaining the patent, the plaintiff secured a license and, at about that time or very shortly thereafter, it began the manufacture and exploitation of its No. 7 heaters.

It is also of record that the defendant undertook the exploitation of its heater which is involved in the

present suit as soon as it could do so after securing a license under the Marsh patent.

The allegation has been made that suitable material other than the so-called nichrome wire was available, and specific mention has been made of a material known to the trade as "Excello" wire. This allegation is true, so far as availability of material prior to the final decision in the suit based upon the Marsh patent is concerned, but it is without significance by reason of the fact that excello wire is a nickel-chromium wire and is, therefore, an infringing material. (p. 67 Rec.)

The fact that the plaintiff was willing to incur the risk incident to using nickel-chromium wire in its earlier heaters, prior to a final adjudication of the Marsh patent, may not properly be utilized as a basis for attack upon other manufacturers who did not care to incur such risk.

The substantial coincidence in time of the issuance of licenses under the sustained Marsh patent and the manufacture and exploitation of radiant or beam heaters by various manufacturers, including the increased exploitation by plaintiff, disposes of the contention on the part of the plaintiff that its No. 7 heaters established for it a commanding position in the field which was unwarrantably invaded by other manufacturers, including the defendant in this suit.

NO INFRINGEMENT.

It has been clearly and definitely shown that, notwithstanding the contentions on the part of the plaintiff that claim 1 of the patent in suit is entitled to a broad interpretation of such character as is accorded to a claim for a pioneer invention, the only features of possible novelty which were added by Brown to heaters Nos. 1, 2, 2b and 3 were a slight modification in the curvature of the reflector and the addition of a protective casing having an annular protective flange projecting laterally from its rim.

It has been noted that, by virtue of the location of the heating unit at substantially the focus of the reflector, the heating member is thus impliedly defined as of parabolic curvature and, in fact, the Morse patent, the Warner patent and the Shoenberg patent would seem to necessitate such limitation, provided the reflector itself is to be construed as having any novel form or characteristic.

The supplemental protective casing is disclosed in the Warner patent, and a protective rim in the Morse patent and, also, in the Shoenberg patent.

The defendant's structure obviously embodies a concavo-convex reflector, a heating unit supported in front of said reflector and a protective cage having guard wires the ends of which are attached to the margin or rim of the reflector, but *the device has no annular member extending outwardly from the margin of the reflector* and, therefore, it does not have and cannot have a protective cage the guard wires of which

are "arched between opposite sides of said annular member".

The designers of the defendant's heater secured all of the essential elements incorporated in the heater from the prior art which was also available to Brown when he made the alleged invention covered by claim 1 of the patent in suit and must be taken into account in construing that claim.

Defendant's device is shown and described in British patent No. 19,971 of 1913, and in defendant's exhibit 9, except as regards the form of the reflector and that of the protective cage.

It will be noted that the supporting member of the defendant's device embodies a base having a frame of U-shape between the arms of which the reflector is mounted upon trunions and that these parts correspond closely to like parts in the British patent.

It is to be noted, further, that, in the defendant's device, the heating unit comprises a supporting rod, an insulating cylinder on such rod and a coil of resistance wire disposed on the insulating cylinder, and that this unit is mounted in the axis of the reflector.

Corresponding parts, which differ only as regards the length of the unit, are disclosed in the British patent.

It is to be noted, further, that a more or less definite relation between the length of the heating unit and the depth of the reflector exists and, consequently, inasmuch as the designers of the defendant's heater elected to use a reflector of the form shown in the

Warner patent (defendant's exhibit H), they necessarily utilized a heating unit the length of which conforms to the depth of the Warner reflector.

The protective cage of the British patent was rejected as less desirable than other forms known in the prior art and, consequently, substantially the form of that shown in the Porter patent No. 684,459 of October 15, 1901 (defendant's exhibit N), was adopted.

Or it may be assumed that the designers of the Westinghouse heater had knowledge of the specific cage shown in defendant's exhibit 16, which was obviously available to anyone desiring to make use of that specific form of protective cage. The device shown in exhibit No. 16 is the Majestic Company No. 2 heater, as exemplified in defendant's exhibit B, the design of which had been abandoned to the public by commercial exploitation prior to the advent of plaintiff's No. 7 heater.

Plaintiff has based its claim of infringement mainly upon the allegation that the bent-over edge of the Westinghouse reflector is a functional equivalent of the annular member 3a of the patent in suit. This allegation has no basis in fact for the following reasons.

1. The edge of defendant's reflector is turned or bent over for the purpose of providing a stiffening or strengthening effect and ensuring a more finished appearance.

2. The turning over of the edges of devices of this character, whether sufficient to constitute a bead of approximately annular form in cross-section or partially,

as in defendant's device, is a common expedient in the art, as indicated, for example, by defendant's exhibits 3, 4, 15, A, B, C and D and H.

3. The turned over edge, being narrow and an integral part of the reflector, cannot possibly serve as a means for protecting users from injury by contact with the body of the reflector.

4. *The edge of the reflector 1 of the patent in suit is turned over in substantially the same manner and to the same degree as is the edge of defendant's reflector, this being clearly shown in Figs. 2 and 5 of the drawing of the patent in suit.*

The turned-over edge of the reflector of the patent in suit is no part of the "annular member extending outwardly from the margin of said reflector" and is not intended to be a part of it.

The reflector of the patent in suit is attached to the annular member 3a by means of three screws, as is clearly indicated in Figs. 1 and 2 of the drawing, and, when detached from the casing 3 and its annular member 3a by removing the screws, it is substantially the same as the defendant's reflector except that it is of parabolic instead of spherically-curved contour.

The specification of the patent in suit states, in lines 24 to 28,

"The radiator comprises a concavo-convex reflector 1, having a highly polished inner surface, and which is secured by screws or any other suitable manner to an outer casing 3, mounted on a base 4."

and, in lines 62 to 65

“In order to prevent the outer exposed edge of the heater from being heated, I *provide the casing with a marginal annular flange 3a.*” (Italics ours.)

These statements in the specification, in and of themselves, make the reflector and its turned-over edge one element and the casing 3, with its annular member 3a, another element.

By no interpretation, within reason, can the turned-over edge of the reflector 1 be construed as a part of the *annular member 3a*. The edge of defendant's reflector is turned over to strengthen the device and give it a finished appearance and for no other reason.

The defendant's reflector does not require either a protective casing or a protective flange because its reflector does not become highly heated, as does the reflector of the plaintiff's heater.

The operative differences between the two heaters—as regards operating temperatures of the reflectors—and the reasons therefor are fully and clearly set forth by defendant's witness Beam. (pp. 83 to 91 Rec.)

Judge Dietrich stated the purpose and function of the turned-over edge of defendant's reflector definitely and clearly in these words:

“It is possible, of course, to characterize the turned-over edge of the defendant's reflector as a flange, and to find that in a slight degree it performs the function for which the annular member or flange illustrated in the Brown patent was designed, but such an effect is merely incidental.

Its primary purpose is to give to the reflector strength and a finished appearance.” (pp. 22 & 23 Rec.)

As a matter of fact, it is immaterial whether the turned-over edge of defendant’s reflector is or is not appreciably cooler than the body of the reflector, in use because the body of the reflector does not become sufficiently heated to burn, or cause material discomfort to anyone coming into contact therewith.

It strains interpretation to the breaking point to find equivalency in two features or elements when they differ not only in structure and in intended function, but also when the demand for functional utility in the one case does not obtain in the other.

It inevitably follows that the defendant’s reflector, having a turned-over edge which conforms, in structure and function, to the turned-over edge of the reflector 1 of the patent in suit and being utilized without any protective attachments except a wire cage, cannot, by any possible construction, within the scope of the patent law, as interpreted by the courts, be held to infringe claim 1 of the patent in suit.

CONCLUSION.

It is submitted, therefore, that the only interpretation of claim 1 which is permitted by the history of the application for the patent in suit, by the statement of invention and the descriptive matter in the specification and by the prior art, is such as limits its scope to exactly what is shown and described and that, as so

limited, even though valid, it is not and cannot be construed to be infringed by the defendant's device.

Further, it is submitted that the claim is invalid in view of the prior art, as setting forth no material and substantial advance over the devices known and used prior to the entry of the patentee into the field or, if, by the exercise of extreme liberality, the claim may be upheld as valid, it is necessarily and inevitably limited to a structure in which the protective devices, comprising the casing 3 and its annular member 3a, are so related to the reflector, the heating unit and the protective cage as to perform exactly the functions which the specification sets forth as their intended functions.

As so construed, a reflector having a marginal or peripheral flange, no matter what its form or dimensions, if not provided and utilized as a means for protecting the user from injury by possible contact with a heated surface of the reflector is not an infringement.

SUGGESTED MISTRIAL.

Our comments respecting appellant's suggestion of a mistrial will be found in our brief in case 3616 and we request that such comments be read as pertaining to this case.

Wherefore it is further submitted that the decree of the Court below should be affirmed.

Dated, San Francisco,

March 5, 1921.

WESLEY G. CARR,

DAVID L. LEVY,

WALTER SHELTON,

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